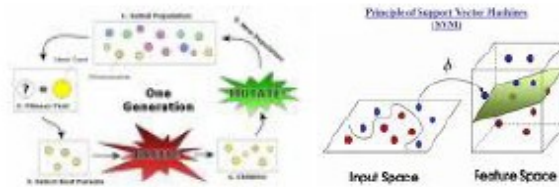


WORKSHOP ON



Data mining in biology: Applications of, SVM, Genetic algorithms, Ant Colony Optimization and Fuzzy sets & Fuzzy logic.

Duration November 3-6 2008

*Venue : School of Information Technology , Room 9
JNU, New Delhi*



Centre for Computational Biology
& Bioinformatics

Summary

Genetic algorithms (GA) are based on the principle of evolution. Starting from a population of potential solutions, the algorithm evolves better solutions by means of natural selection and genetic operations like crossover and mutation that are akin to biological systems. Support vector machines (SVM) is a powerful learning algorithm firmly based on statistical learning theory and structural risk minimization principle. Fuzzy logic is an organized and rigorous methodology to handle imprecise concepts in real life systems. The effectiveness of GA is mainly because of its derivative free search and ease of modeling, and that of SVM is due to its excellent, learning and generalization capabilities. Fuzzy logic is a precise logic of imprecision and approximate reasoning, an effective technique in decision analysis in fuzzy environment.

The workshop introduced the participants to GA, SVM and fuzzy logic and their applications in the areas of chemo- and bio- informatics. The application case studies would include gene identification, cancer detection, and identifications of protein functions, Quantitative Structure-Activity Relationships, protein structure prediction similarity search and phylogenetic analysis, etc.

Teachers :

Dr. V. Sundararajan (CDAC,Pune),

Dr. V.K.Jayaraman(NCL, Pune)

Dr. Ashoke Deshpande (Pune University)